



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,179	01/15/2002	Kenneth L. Stanwood	112174-010UTL	2846

27189 7590 03/04/2008
PROCOPIO, CORY, HARGREAVES & SAVITCH LLP
530 B STREET
SUITE 2100
SAN DIEGO, CA 92101

EXAMINER

SEFCHECK, GREGORY B

ART UNIT	PAPER NUMBER
----------	--------------

2619

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

03/04/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@procopio.com
PTONotifications@procopio.com

Office Action Summary	Application No. 10/053,179	Applicant(s) STANWOOD ET AL.	
	Examiner Gregory B. Sefcheck	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-81 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 51-81 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicant's Amendment filed 12/19/2007 is acknowledged.
- Claims 1-50 have been cancelled.
- Claims 51-81 have been added and are pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 51-56, 63-68, and 76-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sengodan et al. (US006918034B1), hereafter Sengodan, in view of Koodli (US006608841B1).

- Regarding Claims 51, 52, 63, 64, and 76,

Sengodan discloses transferring mobile telephony service voice data (service data units) using IP protocol packets (protocol data unit having a payload and header area) to enable a number of users to share a single RTP/UDP/IP connection (Fig. 1, 3; Col. 1, lines 15-17, 40-52; Col. 3, lines 22-43; claim 51,63 – node/base station for use in a communications system, that transfers service data units over a communications link as a protocol data unit having a payload area and a header area; claim 76 - means for

providing service data units from at least one data source; claim 51,63,76 - communications processor/means configured to convert/encapsulate service data units into protocol data units; claim 52,64,76 - transmitter means coupled to the communications processor configured to wirelessly transmit the protocol data units from the node).

Sengodan discloses mapping mini-packets MPs into the payload of a single RTP/UDP/IP packet, where each MP has a corresponding mini-header that includes a length indicator LI of the MP (Fig. 2-3; claim 51,63,76 – means for mapping a first service data unit to the payload area of a protocol data unit; claim 51,63 - wherein some of the payload area of the protocol data unit comprises a packing subheader for each service data unit mapped therein having a length field).

Sengodan does not explicitly disclose fragmentation of mini-packets that are larger than a remaining payload area of the current RTP/UDP/IP packet.

However, Sengodan pertains to multiple users sharing a single RTP/UDP/IP connection, in which multiple packets are transferred over that single connection. Controlling of packet fragmentation for a RTP/UDP/IP connection is well-known in the art, as shown by Koodli, in which the fragmentation control and length field of the packet is contained in the IP header (Figs. 2A-B; Col. 5, lines 39-65; claim 51,63,76 – means for determining whether a second service data unit is larger than the remaining payload area of the protocol data unit; claim 51,63,76 - if the second service data unit is not

larger than the remaining payload area of the protocol data unit, then means for mapping the second service data unit to the remaining payload area of the protocol data unit; claim 51,63,76 - if the second service data unit is larger than the remaining payload area of the protocol data unit, then means for fragmenting the second service data unit into at least two fragments and means for mapping the first fragment to the payload area of the protocol data unit; claim 51,63,76 - wherein the header area of the protocol data unit comprises a length field).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sengodan by enabling packet fragmentation for a RTP/UDP/IP connection, as shown by Koodli. Combination of Koodli with the mini-packets and mini-headers shown by Sengodan would enable multiple users to share a single RTP/UDP/IP connection while minimizing necessary overhead and maximizing the available payload area of the protocol packets.

- Regarding Claims 77 and 78,

Sengodan discloses a method of transferring mobile telephony service voice data (service data units) using IP protocol packets (protocol data unit having a payload and header area) to enable a number of users to share a single RTP/UDP/IP connection (Fig. ; Col. 1, lines 15-17, 40-52; Col. 3, lines 22-43; claim 77 - method of transferring service data units over a communications link as protocol data units having a header

area and a payload area; claim 77 - identifying a current service data unit for processing).

Sengodan discloses mapping mini-packets MPs into the payload of a single RTP/UDP/IP packet, where each MP has a corresponding mini-header that includes a length indicator LI of the MP (Fig. 2-3; claim 77 - if the current service data unit is not larger than the available payload area of the current protocol data unit; claim 77 - creating a subheader indicating the length of the current service data unit; claim 77 - packing the current service data unit and subheader into the available payload area of the current protocol data unit).

Sengodan does not explicitly disclose fragmentation of mini-packets that are larger than a remaining payload area of the current RTP/UDP/IP packet.

However, Sengodan pertains to multiple users sharing a single RTP/UDP/IP connection, in which multiple packets are transferred over that single connection. Controlling of packet fragmentation for a RTP/UDP/IP connection is well-known in the art, as shown by Koodli, in which the fragmentation control and length field of the packet is contained in the IP header (Figs. 2A-B; Col. 5, lines 39-65; claim 77 - preparing a current protocol data unit having a length field in the header area; claim 77 - entering the length of the protocol data unit in the length field; claim 77 - determining whether the current service data unit is larger than the available payload area of the current protocol data unit; claim 77 - if the current service data unit is larger than the available payload

are of the current protocol data unit; claim 77 - fragmenting the current service data unit into first and second fragments, creating a subheader indicating of the length of the first fragment; claim 77 - packing the first fragment and subheader into the available payload area of the current protocol data unit; claim 77 - storing the second fragment of the current service data unit; claim 77 - adjusting one or more fragmentation control bits in the header area of the current protocol data unit to indicate the presence of a fragment; claim 77 - returning to begin preparing the next protocol data unit; claim 77 - if there is available payload area, returning to identifying step; claim 77 - if there is no available payload area, returning to begin preparing the next protocol data unit; claim 78 - transmitting the current protocol data unit after determining there is no available payload area).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sengodan by enabling packet fragmentation for a RTP/UDP/IP connection, as shown by Koodli. Combination of Koodli with the mini-packets and mini-headers shown by Sengodan would enable multiple users to share a single RTP/UDP/IP connection while minimizing necessary overhead and maximizing the available payload area of the protocol packets.

- Regarding Claim 79,

Sengodan discloses transferring mobile telephony service voice data using IP protocol packets that meets all limitations of the parent claims.

Sengodan discloses providing encryption and authentication of a mini-packet in a multiplexed RTP payload (Title; claim 79 - encrypting the payload of the current protocol data unit after determining there is no available payload area.

- Regarding Claims 53 and 65,

Sengodan discloses transferring mobile telephony service voice data using IP protocol packets that meets all limitations of the parent claims.

Sengodan discloses the variable size of a mini-packet allows different codec formats to share the single connection (Col. 6, lines 65-67; claim 53,65 - wherein the service data units have more than one format).

- Regarding Claims 54-56, 66-68, 80, and 81,

Sengodan discloses transferring mobile telephony service voice data using IP protocol packets that meets all limitations of the parent claims.

Referring to Fig. 2A, Sengodan discloses the mini-header includes a 2 bit sequence number for marking the order of mini-packets within the IP packet(s) from a single user (claim 54,66 - wherein the packing subheader further comprises a fragmentation control field; claim 55,67 - wherein the fragmentation control field comprises at least two bits; claim 56,68 - wherein the packing subheader further

comprises a fragment sequence number; claim 80 - creating a fragmentation sequence number in the subheader of the first fragment; claim 81 - creating a fragmentation control number in the subheader of the first fragment).

3. Claims 57-62 and 69-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sengodan in view of Koodli as applied to claims 51 and 63 above, and further in view of Caronni et al. (US006970941B1), hereafter Caronni.

- Regarding Claims 57-62 and 69-75,

Sengodan discloses transferring mobile telephony service voice data using IP protocol packets that meets all limitations of the parent claims.

Sengodan discloses providing encryption and authentication of a mini-packet in a multiplexed RTP payload, but does not explicitly disclose an encryption control or key field in the header of the protocol data unit. Sengodan also does not explicitly disclose a connection identifier field in the protocol data unit header.

Referring to Fig. 6, Caronni discloses a system and method in an IP network in which a supernet header 620 includes a field 624 for storing encryption key (control) information and supernet number field 626 (connection identifier). Caronni discloses a key for each channel (Col. 5, lines 36-38; Col. 6, lines 1-4), thereby necessitating at least two bits to represent the key in a system with more than two channels (claim 59,71

- wherein the header area of the protocol data unit comprises an encryption control field; claim 60,72 - wherein the encryption control field comprises at least one bit; claim 61,73

- wherein the header area of the protocol data unit further comprises an encryption key field; claim 62,74 - wherein the encryption key field comprises at least two bits; claim 75

– wherein the header area of the protocol data unit further comprises a connection identifier field). Additionally, Caronni discloses next header fields that indicate the presence of additional headers prepended to the packet payload (claim 57,69 - wherein the header area of the protocol data unit comprises a packing subheader present field; claim 58,70 - wherein the packing subheader present field comprises at least one bit).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sengodan by including (sub)header presence, encryption control/key and connection identifier fields in the header of the protocol data unit, as shown by Caronni. This would enable secure communications to be implemented between particular users while continuing to share a common connection.

Response to Arguments

4. Applicant's arguments with respect to claims 51-81 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Subbiah et al. (US006366961B1)

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B. Sefcheck whose telephone number is 571-272-3098. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on 571-272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregory B Sefcheck/
Primary Examiner, Art Unit 2619
2-19-2008

/Wing F Chan/
Supervisory Patent Examiner, Art Unit 2619
2/25/2008